

JOHN DEE'S POND DAM
CT 00643

NAUGATUCK RIVER BASIN
WATERBURY, CONNECTICUT

PHASE I INSPECTION REPORT
NATIONAL DAM INSPECTION PROGRAM

REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
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				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) U.S. Army Corps of Engineers, New England Division				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
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9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Corps of Engineers New England Division 424 Trapelo Road Waltham, MA 02254				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
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13. SUPPLEMENTARY NOTES Cover program reads: Phase I Inspection Report, National Dam Inspection Program; however, the official title of the program is: National Program for Inspection of Non-Federal Dams					
14. ABSTRACT John Dee's Pond consists of a dammed-up portion of the Mad River channel within the Century Brass Products industrial complex. The pond serves as an intake basin for the factory, and is fed by several regulated upstream reservoirs. The pond has a water surface area of 3 acres and a storage capacity of about 40 acre-feet. The dam is 72 feet long and consists of a stone masonry overflow spillway between stone masonry walls. The spillway crest is 15.5 feet above the downstream channel. The channel walls extend both upstream and downstream of the dam and are about 8 feet higher than the spillway crest. The spillway has about 1 foot of flashboards in place. The total hydraulic height of the dam is 23.5 feet. The dam is too small to qualify under the federal Dam Inspection Program					
15. SUBJECT TERMS Dams, Dam Safety, Naugatuck River Basin, Waterbury, Connecticut					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT UNCLASSIFIED	18. NUMBER OF PAGES 15	19a. NAME OF RESPONSIBLE PERSON Matthew Connell
a. REPORT UNCLASSIFIED	b. ABSTRACT UNCLASSIFIED	c. THIS PAGE UNCLASSIFIED			19b. TELEPHONE NUMBER (include area code) 978-318-8349

ROALD HAESTAD, INC.
CONSULTING ENGINEERS

37 Brookside Road • Waterbury, Conn. 06708 • Tel. 203 753-9800

September 26, 1980

The Department of the Army
New England Division
Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

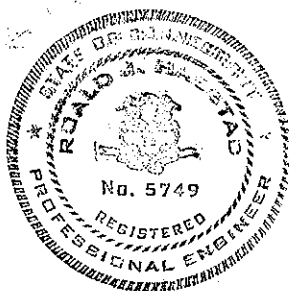
Attention: E.P. Gould
Project Management Division

Re: John Dee's Pond Dam
Waterbury, Connecticut

Gentlemen:

Following field surveys of John Dee's Pond Dam, we conclude that the dam is too small to qualify under the Federal Dam Inspection Program. Calculations reveal that the dam should be classified as "Low" potential hazard.

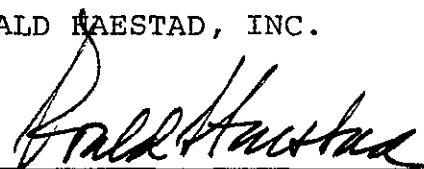
We are enclosing a brief letter report substantiating our findings.



Very truly yours,

ROALD HAESTAD, INC.

By


Roald Haestad

RH:RGL:cft
Encl.

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DESCRIPTION

JOHN DEE'S POND DAM

CT 00643

CITY OF WATERBURY, COUNTY OF NEW HAVEN

ON THE MAD RIVER

OWNED AND OPERATED BY CENTURY BRASS PRODUCTS, INC.

John Dee's Pond consists of a dammed-up portion of the Mad River channel within the Century Brass Products industrial complex. The pond serves as an intake basin for the factory, and is fed by several regulated upstream reservoirs. The pond has a water surface area of 3 acres and a storage capacity of about 40 Acre-Feet.

The dam is 72 feet long and consists of a stone masonry overflow spillway between stone masonry walls. The spillway crest is 15.5 feet above the downstream channel. The channel walls extend both upstream and downstream of the dam and are about 8 feet higher than the spillway crest. The spillway has about 1 foot of flashboards in place. The total hydraulic height of the dam is 23.5 feet.

The dam is too small to qualify under the Federal Dam Inspection Program. The downstream channel has more than enough capacity to contain a breach of 40 percent of the length of John Dee's Pond Dam. Should the dam fail with the water level at the top of the channel walls, no loss of life or significant property damage would be expected.

Therefore, John Dee's Pond has been classified as "Low" potential hazard in accordance with the Corps of Engineers' Recommended Guidelines for Safety Inspection of Dams.



OVERVIEW PHOTO

U.S. ARMY ENGINEER DIV. NEW ENGLAND
CORPS OF ENGINEERS
WALTHAM, MASSACHUSETTS

ROALD HAESTAD, INC.
CONSULTING ENGINEERS
WATERBURY, CONNECTICUT

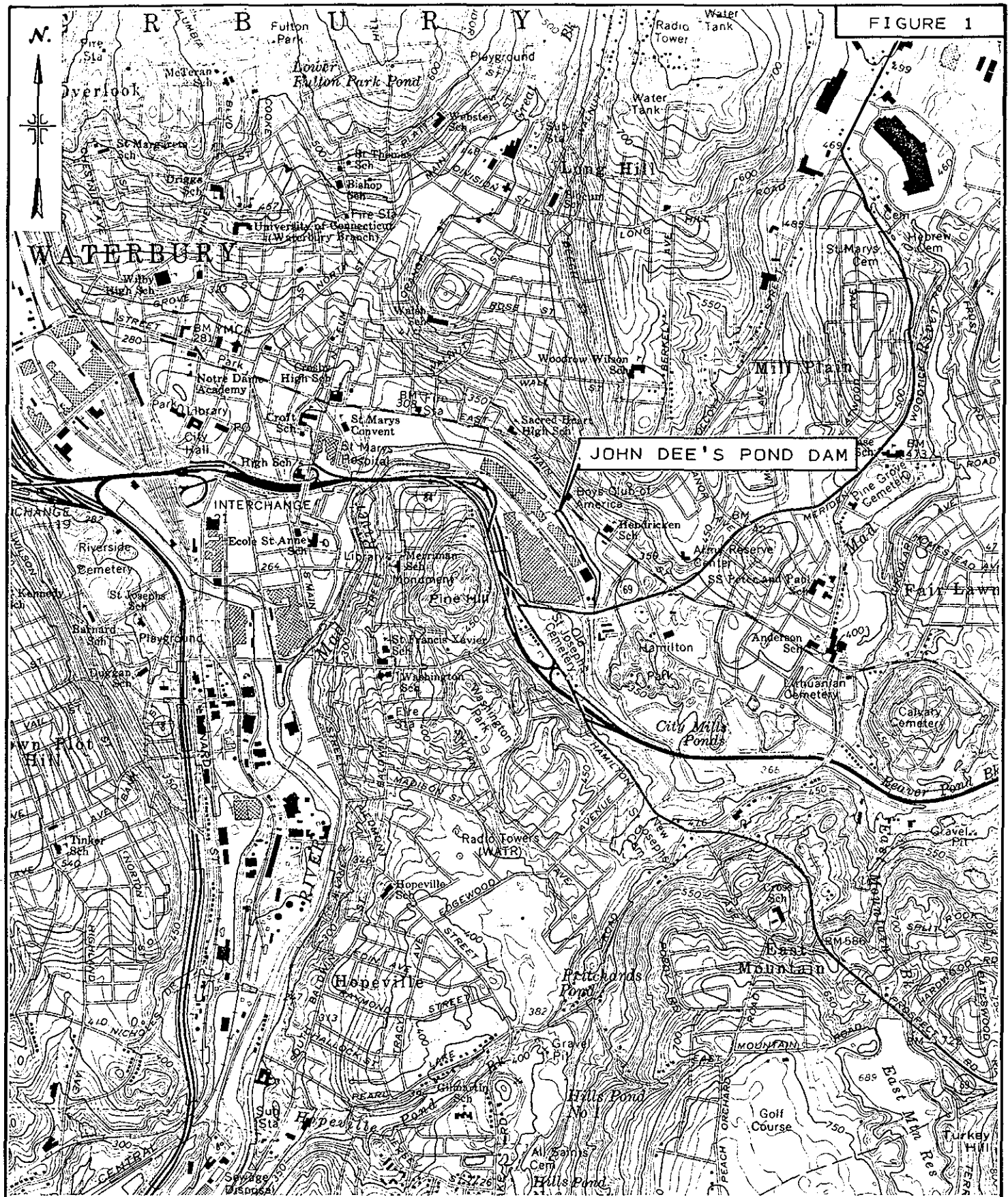
NATIONAL PROGRAM OF
INSPECTION OF
NON-FED. DAMS

JOHN DEE'S POND DAM - CT 00643

MAD RIVER

WATERBURY, CONNECTICUT

19 APRIL '80



LOCATION PLAN

JOHN DEE'S POND DAM
WATERBURY, CONNECTICUT

SCALE: 1" = 2000'

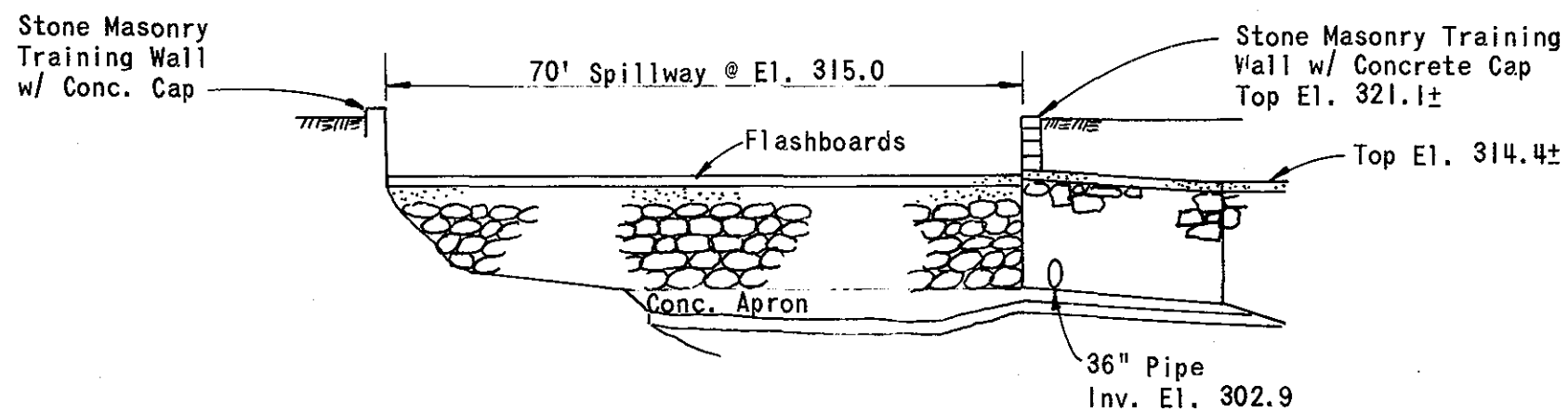
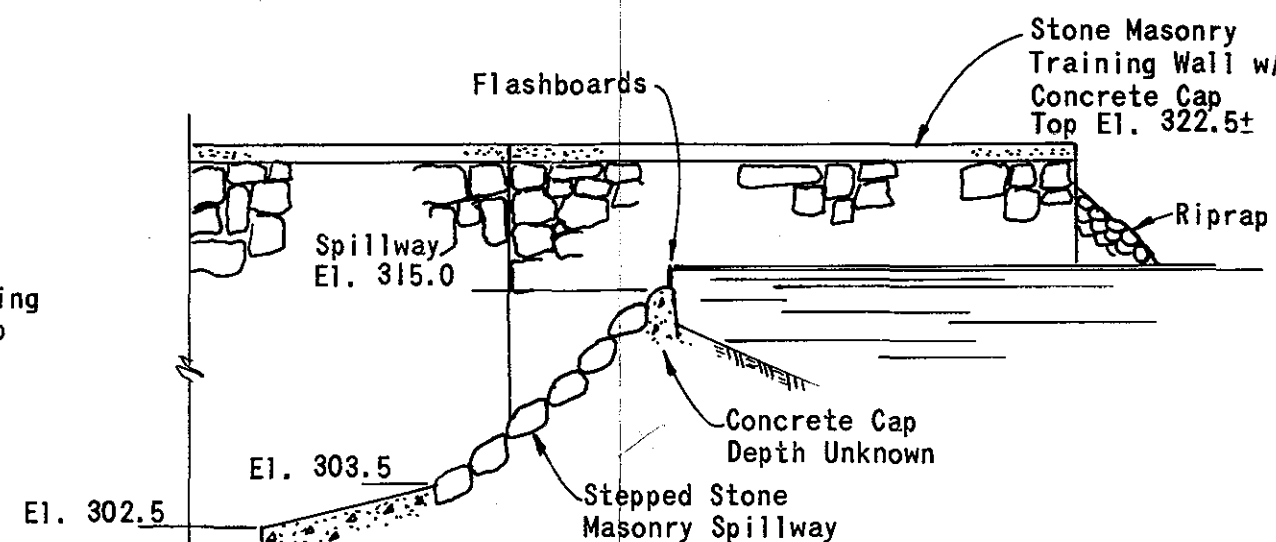
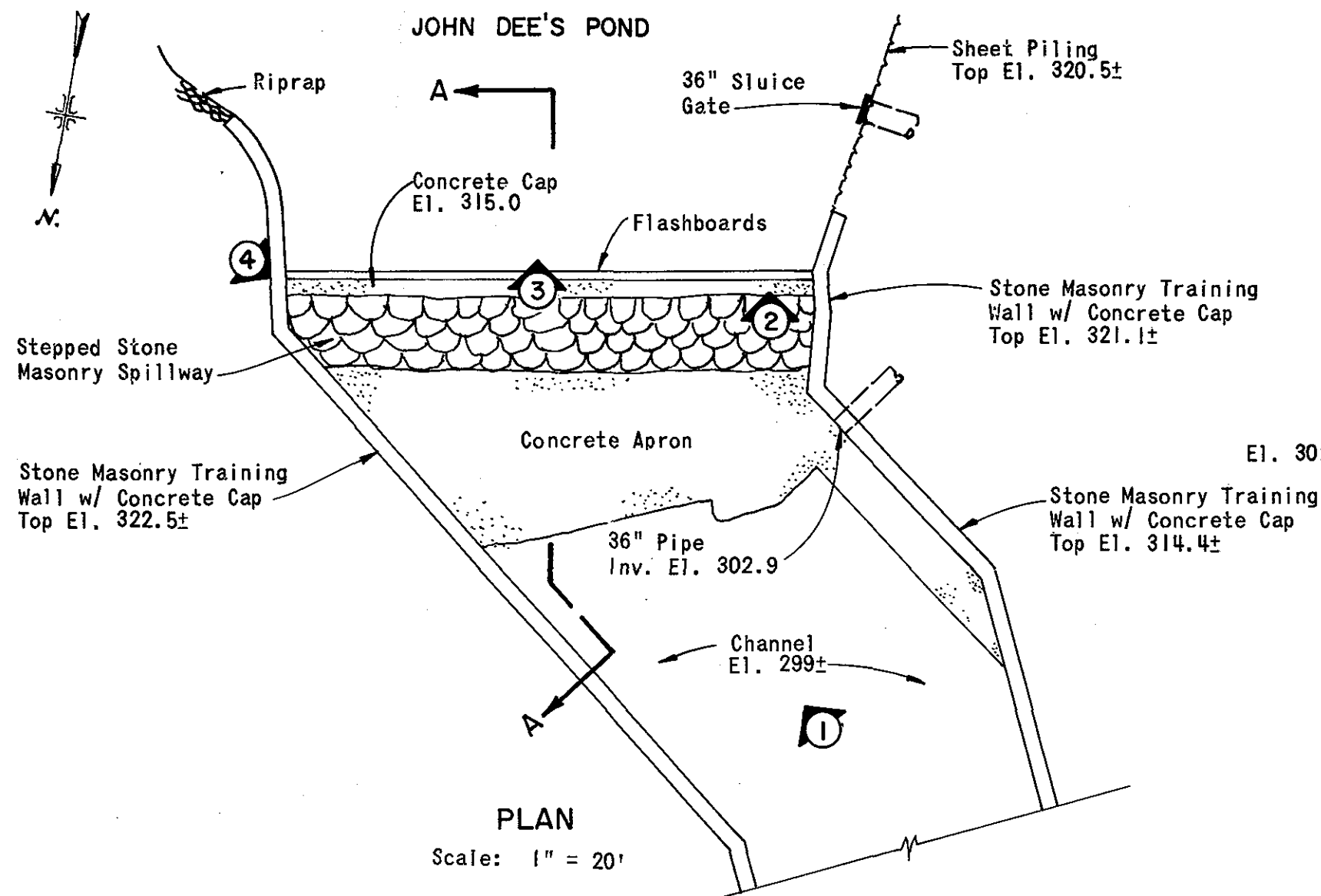
ROALD HAESTAD, INC.


WATERBURY QUADRANGLE 1972

APPENDIX A

VISUAL CHECK LIST WITH COMMENTS

FIGURE 2



 Denotes Photo Number and Direction in which Photo was Taken.

ROALD HAESTAD, INC. CONSULTING ENGINEERS WATERBURY, CONNECTICUT	U.S. ARMY ENGINEER DIV. NEW ENGLAND CORPS OF ENGINEERS WALTHAM, MASS.		
NATIONAL PROGRAM OF INSPECTION OF NON-FED. DAMS			
JOHN DEE'S POND DAM			
DRAWN	CHECKED	APPROVED	SCALES AS NOTED
JRS	RGL	RH	DATE SEPT. 1980 PAGE A-1

APPENDIX B

PHOTOGRAPHS

SEE FIGURE 2, PAGE A-1
FOR PHOTO LOCATIONS.



PHOTO NO. 1

SPILLWAY FROM DOWNSTREAM CHANNEL



PHOTO NO. 2

FLASHBOARDS

U.S.ARMY ENGINEER DIV NEW ENGLAND
CORPS OF ENGINEERS
WALTHAM, MASSACHUSETTS

ROALD HAESTAD, INC.
CONSULTING ENGINEERS
WATERBURY, CONNECTICUT

NATIONAL PROGRAM OF
INSPECTION OF
NON-FED. DAMS

JOHN DEE'S POND DAM
MAD RIVER
WATERBURY, CONNECTICUT
CT 00643
22 JULY '80



PHOTO NO. 3

JOHN DEE'S POND



PHOTO NO. 4

DOWNSTREAM CHANNEL

U.S. ARMY ENGINEER DIV. NEW ENGLAND
CORPS OF ENGINEERS
WALTHAM, MASSACHUSETTS

ROALD HAESTAD, INC.
CONSULTING ENGINEERS
WATERBURY, CONNECTICUT

NATIONAL PROGRAM OF
INSPECTION OF
NON-FED. DAMS

JOHN DEE'S POND DAM
MAD RIVER
WATERBURY, CONNECTICUT
CT 00643
22 JULY '80

APPENDIX C
HYDROLOGIC COMPUTATIONS

BY...D.H.S.... DATE...8/4/80...

ROALD HAESTAD, INC.

SHEET NO...1..... OF...2.....

CONSULTING ENGINEERS

CKD BY...SAL... DATE...9/19/80...

37 Brookside Road - Waterbury, Conn. 06708

JOB NO...49-029.....

SUBJECT...John Dees' Pond - DAM BREACH.....

DAM BREACH - "RULE OF THUMB"

$$Q_{pi} = \frac{8}{27} W_b \sqrt{g} Y_o^{3/2}$$

W_b = Breach Width = 40% of Dam length at Mid Height

$$W_b = 0.40 (72) = 28.8 \text{ ft.}$$

Y_o = Hydraulic Height of Dam, Stream Bed to Pool Elevation at Failure.

$$Y_o = 23.5 \text{ ft.}$$

$$Q_{pi} = \frac{8}{27} (28.8) \sqrt{32.2} (23.5)^{3/2}$$

$$Q_{pi} = 5516 \text{ cfs}$$

BY PLS DATE 8/4/80

ROALD HAESTAD, INC.

SHEET NO 2 OF 2

CONSULTING ENGINEERS

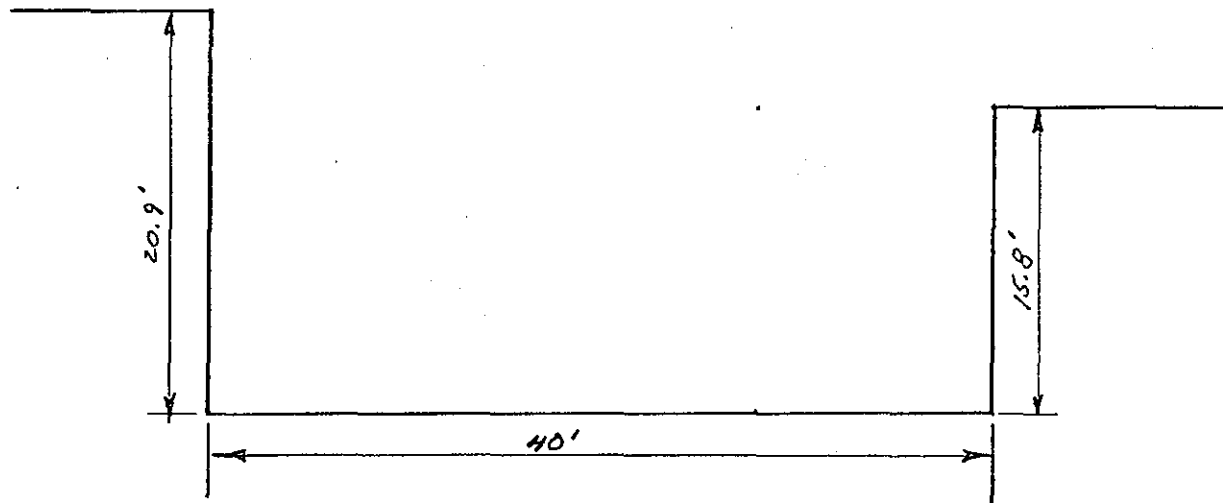
CKD BY SAL DATE 9/19/80

37 Brookside Road - Waterbury, Conn. 06708

JOB NO 49-029

SUBJECT John Dees Pond - FLOOD ROUTING

SECTION 1



$S = 0.0033$

Channel Capacity

$n = 0.025$

$$Q = AV = A \frac{1.486}{n} (R)^{2/3} (S)^{1/2}$$

$$Q = 40(15.8) \left(\frac{1.486}{0.025} \right) \left(\frac{40 \times 15.8}{40 + 2(15.8)} \right)^{2/3} (0.0033)^{1/2}$$

$Q = 9217 \text{ cfs}$

Looking u/s

APPENDIX D
INVENTORY FORMS